25 JUN 2004

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166 KALLANG WAY
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SINGAPORE 349249, SINGAPORE

In re Application of MANGELINCK	:	
U.S. Application No.: 10/707,968	:	
PCT Application No.: PCT/SG02/00174	:	DECISION
Int. Filing Date: 31 July 2002	:	
Priority Date Claimed: 31 July 2001	:	
Attorney Docket No.: ASTAP2004-01	:	
For: GATE ELECTRODES AND THE FORMATION THEREOF	:	

This is in response to applicant's "Petition to Convert and Application Which Was Filed Under 35 U.S.C. § 111(A) to a National Application Filed Under 35 U.S.C. § 371" filed 26 May 2004.

BACKGROUND

On 31 July 2002, applicant filed international application PCT/SG02/00174, which claimed priority of an earlier Singapore application filed 31 July 2001. A copy of the international application was communicated to the USPTO from the International Bureau on 13 February 2003. The thirty-month period for paying the basic national fee in the United States expired on 31 January 2004.

On 29 January 2004, applicant filed application papers in the USPTO via the Electronic Filing System (EFS).

On 26 May 2004, applicant filed the present petition under 37 CFR 1.182.

DISCUSSION

The petition states that the 29 January 2004 filing was intended to be a national stage application under 35 U.S.C. 371. However, it is not yet possible to file a national stage application under 35 U.S.C. 371 via EFS.

The information on the USPTO's internet site states,

> At this time EFS does not provi[d]e all the capabilities needed to author, submit and initially process electronic documents and attachments required for a complete 35 U.S.C. 371 National stage filing. A future release of EFS software will provide the software capabilities needed to author and electronically submit a National stage application via the Internet to the USPTO. An application enters the national stage process from an international application after compliance with 35 USC 371. See http://www.uspto.gov/ebc/efs/faq/whattype.htm.

The petition states that the EFS software provided applicant with the opportunity to specify the relationship between the present application and the PCT application. However, while the EFS software may be used to file a continuation of a PCT application, it does not permit the filing of a national stage application based on a PCT application. Furthermore, the fact that applicant may have incorrectly entered text into the "Continuing Data" field does not enable applicant to submit an impermissible application type.

U.S. statutes and regulations do not make specific provision for the requested conversion and as such the Office does not grant such petitions for conversion as a mere matter of course. The Office will only grant such petitions upon a showing by applicant of sufficient cause (e.g., the loss of patent rights) where no other remedy is available. In the present case, applicant has failed to make such a showing.

CONCLUSION

For the reasons above, the petition under 37 CFR 1.182 is DISMISSED without prejudice.

If reconsideration on the merits of the petition is desired, a proper response must be filed within TWO (2) MONTHS from the mail date of this decision. Extensions of time are available under 37 CFR 1.136(a). Any reconsideration request should include a cover letter entitled "Renewed Petition Under 37 CFR 1.182".

Please direct further correspondence with respect to this matter to Mail Stop PCT, Commissioner for Patents, Office of PCT Legal Administration, P.O. Box 1450, Alexandria, Virginia 22313-1450, with the contents of the letter marked to the attention of the Office of PCT Legal Administration.

Bryan Tung
PCT Legal Examiner
Office of PCT Legal Administration

Telephone: 703-308-6614
Facsimile: 703-308-6459

Appl. No.: 10/707,968
Petition to convert a §111(a) application to a §371 application, dated May 25, 2004
Response to Notice Regarding Benefit/Priority Claim of Mar 23, 2004

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	: 10/707,968	Confirmation No.	: 1967
Applicant	: Dominique MANGELINCK et al.		
Filed	: January 29, 2004		
TC / A.U.	: 2811		
Examiner	: Not Assigned Yet		
Docket No.	: ASTAP2004-01		
Customer No.	: 031366		
Title	: Gate Electrodes and the Formation Thereof		

CERTIFICATE OF TRANSMISSION
I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office, Alexandria, VA 22313-1450 on May 25, 2004.

Signed: Wendy

Wendy LIM

Mail-Stop PCT
Commissioner for Patents
P.O. Box 1450
Alexandria, Va 22313-1450

Petition to convert an application which was filed under 35 U.S.C. § 111(A) to a national application filed under 35 U.S.C. § 371

Sir:

This petition (Petition) is submitted under 37 CFR §1.182 to convert the above-mentioned application (Application) filed under 35 U.S.C. §111(a) to a national stage application filed under 35 U.S.C. §371.

06/25/2004 CSHOOT 00000001 502388 10707968

Sale Ref: 00000001 DA#: 502388 10707968

01 FC:1460 130.00 DA

The filing receipt indicates that the Application has been treated as an application filed under 35 U.S.C. §111(a). However, the original intention of the Applicants is to file the Application under 35 U.S.C. §371 as a National Stage Application of International Application No. PCT/SG02/00174 (International Application), filed July 31, 2002, designating the United States of America.

The Application was filed using the Electronic Filing System (EFS), which provided an option on the "continuity data" screen to specify the §371 relationship between the present Application and the prior-filed International Application (*see* Exhibit A). The EFS software (ePAVE) automatically generated an application data sheet that clearly indicates that the Application is a National Stage of the International Application in the "Continuing Data" section (*see* Exhibit B), the International Application being identified by its PCT Application Number and International Filing Date. In addition, a reference to the International Application was provided in the originally filed specification (*see* Exhibit C), clearly indicating that the Application is a National Stage of the International Application.

Accordingly, Applicants respectfully request that the present Application be treated as a filing under 35 U.S.C. §371. Please charge the Petition fee of $130.00 under 37 CFR 1.53(b)(1) to Deposit Account No. 50-2388. The Commissioner is further authorized to charge any additional fees which may be required, or credit any overpayment to this account. Issuance of a corrected formal filing receipt is respectfully solicited.

Appl. No.: 10/707,968
Petition to convert a §111(a) application to a §371 application, dated May 25, 2004
Response to Notice Regarding Benefit/Priority Claim of Mar 23, 2004

Dated: May 25, 2004

Respectfully submitted,

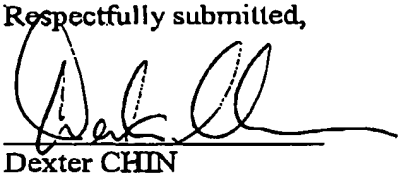

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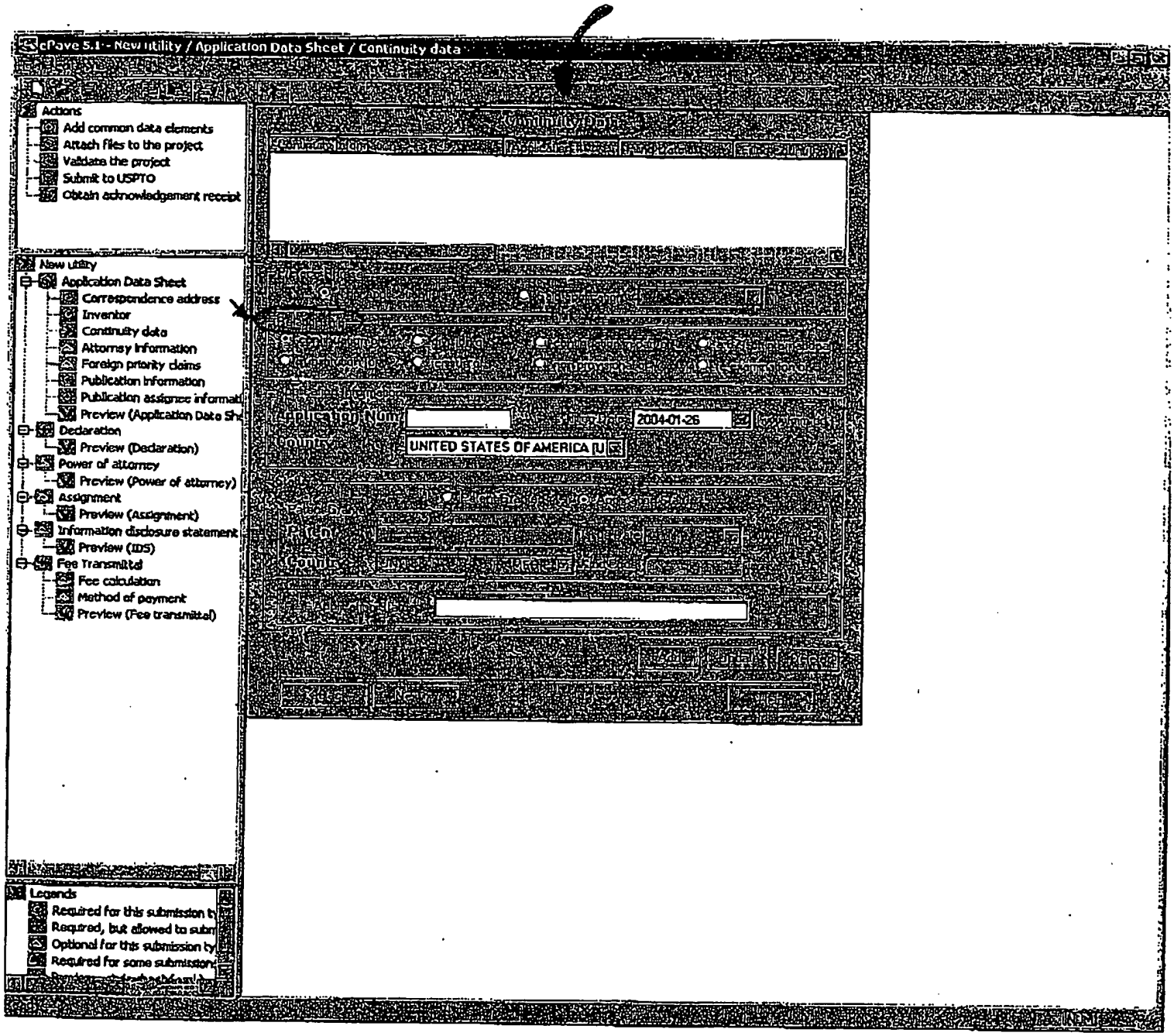
Exhibit A


cPave 5.1 - New Utility / Application Data Sheet / Continuity data
Actions
Add common data elements
Attach files to the project
Validate the project
Submit to USPTO
Obtain acknowledgement receipt
New utility
Application Data Sheet
Correspondence address
Inventor
Continuity data
Attorney information
Foreign priority claims
Publication information
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Preview (Application Data Sh
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Assignment
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Information disclosure statement
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Fee Transmittal
Fee calculation
Method of payment
Preview (Fee transmittal)
Legends
Required for this submission t
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Optional for this submission by
Required for some submission
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UNITED STATES OF AMERICA (U

Exhibit C

SPECIFICATION

[Electronic Version 1.2.8]

GATE ELECTRODES AND THE FORMATION THEREOF

Cross Reference to Related Applications

This application is the National Stage of International Application No. PCT/SG02/00174, filed July 31, 2002, and which was published in English under PCT Article 21(2) as WO 03/012876 A1 on February 13, 2003. The international application claims priority to Singaporean Application No. 200104614-3, filed July 31, 2001.

Background of Invention

[0001] Referring to Figure 1 of the accompanying drawings, a complementary metal oxide semiconductor (CMOS) transistor comprises an n channel MOS (NMOS) and a p channel MOS (PMOS). Historically, a polycrystalline n+-Si gate is used as a gate electrode both in NMOS and PMOS transistors. For PMOS transistors additional boron implantation into the channel region of the Si substrate is needed to control the threshold voltage because of the low work function of n+-SI. This can produce short channel effects and large sub-threshold currents and thus the PMOS transistor is less scaleable than the NMOS transistor. In order to solve this problem, a dual gate configuration where polycrystalline n+-SI and p+-Si are used as the gate for the NMOS and PMOS transistors, respectively, has been suggested. However, the dual gate CMOS has drawbacks, most notably boron penetration (for PMOS) through the gate oxide and the poly-depletion effect. Instead of using a dual gate, a material with a work function close to the value of the middle of the bandgap of silicon (4.61 eV), can be used for both NMOS and PMOS transistors. A material with such a work function is called a mid-gap material and the process utilising this material for a gate electrode is known as mid-gap CMOS technology.

[0002] In addition, the contact surface of the gate electrode is actually provided by a silicide layer ($TiSi_2$, $CoSi_2$, $PtSi_2$, PtSI or NISI) on top of the polycrystalline SI gate (e.g. n+-SI) in current CMOS fabrication processes. At relatively high temperatures (e.g. 600°C), the silicide film is usually degraded by two phenomena: inversion and agglomeration. Inversion is due to the grain growth of Si during the formation of

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*** RX REPORT ***
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